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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,413	10/22/2003	Hiroyuki Takahashi	KAM-01001	6168

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EXAMINER	
HUR, JUNG H	

ART UNIT	PAPER NUMBER
2824	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/691,413	TAKAHASHI, HIROYUKI
	Examiner	Art Unit
	Jung (John) Hur	2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,8-12,14-22,24 and 26-30* is/are rejected.

7)☒ Claim(s) *3-5,7,13,23 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/22/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *search history*.

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 22 October 2003. The information disclosed therein was considered.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it exceeds 150 words in length, and "have" in the first line should be --has--. Correction is required. See MPEP § 608.01(b).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

--HIGH-SPEED, TWO-PORT DYNAMIC RANDOM ACCESS MEMORY (DRAM) WITH A LATE-WRITE CONFIGURATION--

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 6, 8-12, 14-22, 24 and 26-30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26, 33, 35, 41 and 46 of copending Application No. 10/692,283 ("Reference"). Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claims 1-26, 33, 35, 41 and 46 of Reference anticipates a semiconductor memory device, and a related method (for example, claim 41 of Reference), comprising first and second switch transistors and a capacitor (a two-port DRAM cell; for example, claims 1 and 2 of Reference), a late-write configuration (for example, claim 7 of Reference which recites delaying write addresses by a predetermined number of write cycles), first and second X decoders and first and second sense amplifiers (for example, claims 11 and 12 of Reference), a write address holding circuit comprising pairs of latch circuits connected in cascade connection (for example, claims 9 and 17 of Reference), a data holding circuit (for example, claims 3 and 4 of Reference), a selection circuit to select between an input address and the address from the write address holding circuit (for example, the first selection circuit in claim 11 of Reference), second and

third match detection circuits (for example, the "first" and "second" match detection circuits, respectively, in claim 9 of Reference, and implied in claims 3 and 4, within "a second determination circuit"), a timer and a refresh address generation circuit (for example, claims 13 and 14 of Reference), interface compatible with a clock synchronous type static random access memory (and impliedly compliant with zero bus turnaround specification; for example, claims 19 and 20), and a control circuit, wherein the control circuit inhibits a refresh operation and performs a write operation when a refresh address matches the row address of a write address, and concurrently performs refresh and write operations when a refresh address does not match the row address of a write address (for example, claims 1 and 2 of Reference), and reads a data from the data holding circuit when an input read address matches the address in the write address holding circuit, and reads a data from the memory cell when an input read address does not match the address in the write address holding circuit (for example, claims 3 and 4 of Reference).

However, said claims of Reference do not recite that a chip enable signal is employed for the internal clock signal and a write enable signal is employed for the clock signal for write control, or an input buffer for receiving a row address, or a second latch circuit for sampling the refresh operation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a chip enable signal and a write enable signal as the clock signals and incorporate an address input buffer as a part of the input stage in the device claimed in Reference, since use of a chip enable signal and a write enable signal as clock signals to control and synchronize memory operations and use of address input buffers were common and well known in the art. Further, it would have been obvious to use a second latch for sampling the

refresh address in the device claimed in Reference, for the purpose of effectively synchronizing the refresh address availability with that of the input address for match detection.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

6. Claims 3-5, 7, 13, 23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3 and 4, the prior arts of record do not disclose or suggest a device as recited in claim 3 or 4, and particularly, the address output from the selection circuit being supplied to an X decoder for selecting the word line for normal access.

Regarding claims 5 and 13, the prior arts of record do not disclose or suggest a device as recited in claim 5 or 13, and particularly, a first match detection circuit comparing the refresh address with the externally input row address and a second match detection circuit comparing the refresh address with the row address in the write address holding circuit.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Following references disclose a refresh address comparison circuit for a dual-port DRAM:

Sakurai et al. ("Transparent-refresh DRAM (TReD) using dual-port DRAM cell," Proceedings of the IEEE 1988 Custom Integrated Circuits Conference, 16-19 May 1988, pp. 4.3/1 - 4.3/4)

Rao (U.S. Pat. No. 5,856,940)

Holland et al. (U.S. Pat. No. 6,233,193)

Kuroda et al. (U.S. Pat. No. 6,327,210)

Takahashi, Hiroyuki (U.S. Pat. Appl. Pub. No. 2004/0079968) is a patent application publication corresponding to the copending Application No. 10/692,283 recited above.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung (John) Hur whose telephone number is (571) 272-1870. The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jhh

VAN THU NGUYEN
PRIMARY EXAMINER